



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAR 27 2015

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

REPLY TO THE ATTENTION OF:

Larry Fleshood
Plant Manager
Bulldog Battery Corporation
387 South Wabash Street
Wabash, Indiana 46992

Re: Administrative Order EPA-5-15-113(a)-IN-03
In the Matter of: Bulldog Battery Corporation – Wabash, Indiana - ACO
Docket No. _____

Dear Mr. Fleshood:

Enclosed please find a fully executed Administrative Consent Order regarding the above captioned case. If you have any questions, please contact Alexandra Letuchy of my staff at 312-886-6035.

Sincerely,

A handwritten signature in black ink, appearing to read "Sarah Marshall", is written over a horizontal line.

Sarah Marshall
Chief
Air Enforcement and Compliance Assurance Section (MI/WT)

Enclosure: Administrative Order EPA-5-15-113(a)-IN-03

cc: Phil Perry
Indiana Department of Environmental Management

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

In the Matter of:)	EPA-5-15-113(a)-IN-03
)	
Bulldog Battery Corporation)	
)	Proceeding Under Sections 113(a)(1)(A) and
)	(a)(3)(A) and 114(a)(1) of the Clean Air Act,
Wabash, Indiana)	42 U.S.C. §§ 113(a)(1)(A), (a)(3)(A) and 114(a)(1).
)	
)	

Administrative Consent Order

1. The Director of the Air and Radiation Division, U.S. Environmental Protection Agency (EPA), Region 5, is issuing this Order to Bulldog Battery Corporation (Bulldog) under Sections 113(a)(1)(A), (a)(3)(A) and 114(a)(1) of the Clean Air Act (CAA), 42 U.S.C. §§ 7413(a)(1)(A), (a)(3)(A) and 7414(a)(1).

Statutory and Regulatory Background

2. Each state must submit to the Administrator of EPA a plan for attaining and maintaining the National Ambient Air Quality Standards under Section 110 of the CAA, 42 U.S.C. § 7410.

3. On December 6, 1994, EPA approved Indiana's Registration Construction and Operating Permit program, 326 IAC 2-1-02 through 2-1-13, as part of the federally enforceable Indiana State Implementation Plan (SIP). 59 Fed. Reg. 51108.

4. Under Section 112 of the CAA, 42 U.S.C. § 7412, EPA promulgated the National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources (NESHAP Subpart P) at 40 C.F.R. Part 63, Subpart P.

5. NESHAP Subpart P applies to lead acid battery manufacturing plants that are an area source of hazardous air pollutants (HAPs).

6. "Area source" is defined as "any stationary source of hazardous air pollutants that is not a major source." 42 U.S.C. § 7412(a)(2).

7. NESHAP Subpart P, at 40 C.F.R. § 63.11423(b)(2)(i), provides that for any emission point controlled by a fabric filter, "you must perform semiannual inspections and maintenance to ensure proper performance of each fabric filter. This includes inspection of structural and filter integrity. You must record the results of these inspections."

8. NESHAP Subpart P, at 40 C.F.R. § 63.11423(b)(2), states that for any emission point controlled by a fabric filter, you must either monitor differential pressure drop as required by 40 C.F.R. § 63.11423(b)(2)(ii) or conduct visible emission observations as required by 40 C.F.R. § 63.11423(b)(2)(iii).

9. NESHAP Subpart P, at 40 C.F.R. § 63.11423(b)(2)(ii) provides that "you must install, maintain, and operate a pressure drop monitoring device to measure the differential pressure drop across the fabric filter during all times when the process is operating. The pressure drop shall be recorded at least once per day. If a pressure drop is observed outside of the normal operational ranges, you must record the incident and take immediate corrective actions. You must also record the corrective actions taken. [...]"

10. NESHAP Subpart P, at 40 C.F.R. § 63.11423(b)(2)(iv)(A) and (B), states that for fabric filters equipped with a HEPA filter or other secondary filter, you are allowed to monitor pressure drop or visible emission observations once per week.

11. Under Section 113(a)(1) of the CAA, 42 U.S.C. § 7413 (a)(1), the Administrator of EPA may issue an order requiring compliance to any person who has violated or is violating a SIP.

12. Under Section 113(a)(3) of the Act, 42 U.S.C. § 7413(a)(3), the Administrator may issue an order requiring compliance to any person who has violated or is violating the NESHAP Subpart P regulation. The Administrator has delegated this authority to the Regional Administrator who has delegated this authority to the Director of the Air and Radiation Division.

13. The Administrator may require any person who owns or operates an emission source to make reports, sample emissions, and provide information required by the Administrator under Section 114(a)(1) of the Act, 42 U.S.C. § 7414(a)(1). The Administrator has delegated this authority to the Regional Administrator who has delegated this authority to the Director of the Air and Radiation Division.

Findings

14. Bulldog owns and operates a lead acid battery manufacturing facility (facility) at 387 South Wabash Street, Wabash, Indiana.

15. Bulldog's facility is a lead acid battery manufacturing facility that is an area source of HAP emissions and is subject to the provisions of NESHAP Subpart P.

16. IDEM issued a revised Registration Permit, No. 169-26459-00049, to Bulldog on June 12, 2008. This permit incorporates by reference NESHAP Subpart P.

17. On June 3, 2013, EPA conducted an inspection at the facility.

18. On January 3, 2014, EPA issued an information request to Bulldog pursuant to Section 114 of the CAA, 42 U.S.C. § 7417. Bulldog submitted a response on March 12, 2014.

19. In response to the information request, Bulldog provided the dates of semiannual inspections performed on the fabric filters associated with the following operations: oxide mill

#1, oxide mill #2, grid casting, and paste mixing; it was unable to locate and provide records of the results of the inspections.

20. In response to the information request, Bulldog failed to justify the proper operating range for the pressure drop across each filter unit and failed to provide records of corrective actions taken in response to incidents that were outside of the designated ranges.

21. In response to the information request, Bulldog failed to provide differential pressure drop monitoring or visible emissions observations in connection with paste mixing operations from August 2009 to June 2011.

22. Bulldog violated NESHAP Subpart P at 40 C.F.R. §§ 63.11423(b)(2)(i), and 63.11423(b)(2)(ii).

Compliance Program

23. By no later than 30 days from the effective date of this Order, Bulldog must achieve, demonstrate, and maintain compliance with its Registration Permit and NESHAP Subpart P at its Wabash, Indiana facility.

24. Within 30 days after the effective date of this Order, Bulldog must implement the operation and maintenance (O&M) plan for its fabric/HEPA filters attached hereto as Attachment A, Part 1.

25. Within 30 days after the effective date of this Order, Bulldog must implement the Corrective Action Plan attached hereto as Attachment A, Part 2.

26. The O&M plan and corrective action plan may be reviewed and modified as needed based on operating experience and, if modified, must be resubmitted to IDEM (or to EPA if modified within one year of the effective date of this Order).

27. Within 30 days after the effective date of this Order, Bulldog must begin to use and continue to use the blank forms attached hereto as Attachment B. Bulldog will use the blank forms to maintain the following records: (1) semiannual inspections and maintenance records as required by NESHAP Subpart P, at 40 C.F.R. § 63.11423(b)(2)(i); (2) differential pressure drop monitoring as required by NESHAP Subpart P, at 40 C.F.R. § 63.11423(b)(2)(ii), or visible emissions observations as required by NESHAP Subpart P, at 40 C.F.R. § 63.11423(b)(2)(iii); (3) corrective actions taken; and (4) recordkeeping associated with additional inspections and preventative maintenance required by the O&M plan.

28. Bulldog must submit to EPA quarterly records containing all recordkeeping that is required under NESHAP Subpart P, the O&M plan, and the Corrective Action plan. Bulldog must submit these records to EPA for four calendar quarters beginning on the first full calendar quarter following the effective date of this Order; each submission must be made within thirty (30) days following the end of the calendar quarter.

29. Within 60 days of the effective date of this Order, Bulldog must submit an application to the Indiana Department of Environmental Quality (IDEM) to incorporate the O&M Plan, Corrective Action Plan, and associated records into a revised Registration Permit.

30. Bulldog must send all reports required by this Order to:

Attention: Compliance Tracker (AE-17J)
Air Enforcement and Compliance Assurance Branch
U.S. Environmental Protection Agency, Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604

— General Provisions —

31. Bulldog admits the jurisdictional allegations in this Order but does not admit the other factual allegations, alleged violations or legal conclusions alleged in this Order. In the

interest of settlement, Bulldog agrees to the terms of the Compliance Program portion of this Order.

32. This Order does not affect Bulldog's responsibility to comply with other federal, state and local laws.

33. This Order does not restrict EPA's authority to enforce the Indiana SIP, Section 111 of the CAA or any other section of the CAA.

34. Nothing in this Order limits the EPA's authority to seek appropriate relief, including penalties, under Section 113 of the CAA, 42 U.S.C. § 7413, for any of Bulldog's alleged violations of NESHAP Subpart P. P. P. P. P. P. P.

35. Failure to comply with this Order may subject Bulldog to penalties of up to \$37,500 per day for each violation under Section 113 of the CAA, 42 U.S.C. § 7413, and 40 C.F.R. Part 19.

36. The terms of this Order are binding on Bulldog, its assignees and successors. Bulldog must give notice of this Order to any successors in interest prior to transferring ownership and must simultaneously provide notice to EPA, at the above address, that it has given the notice.

37. Bulldog may assert a claim of business confidentiality under 40 C.F.R. Part 2, Subpart B, for any portion of the information it submits to EPA. Information subject to a business confidentiality claim is available to the public only to the extent allowed by 40 C.F.R. Part 2, Subpart B. If Bulldog fails to assert a business confidentiality claim, EPA may make all submitted information available, without further notice, to any member of the public who requests it. Emission data provided under Section 114 of the CAA, 42 U.S.C. § 7414, is not

entitled to confidential treatment under 40 C.F.R. Part 2, Subpart B. "Emission data" is defined at 40 C.F.R. § 2.301.

38. This Order is not subject to the Paperwork Reduction Act, 44 U.S.C. § 3501 et seq., because it seeks collection of information by an agency from specific individuals or entities as part of an administrative action or investigation. To aid in our electronic recordkeeping efforts, please furnish an electronic copy on physical media such as compact disk, flash drive or other similar item. If it is not possible to submit the information electronically, submit the response to this Order without staples. However, paper clips and binder clips are acceptable.

39. EPA may use any information submitted under this Order in an administrative, civil judicial, or criminal action.

40. For purposes of this Order, Bulldog waives any remedies, claims for relief, and otherwise available rights to judicial or administrative review that it may have with respect to any issue of fact or law set forth in this Order, including any right of judicial review under Section 307(b) of the CAA.

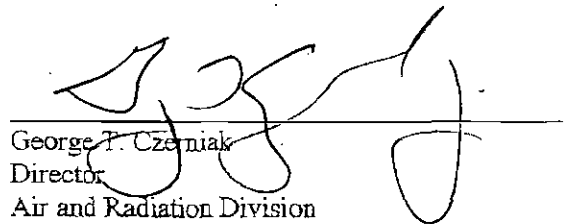
41. This Order is effective on the date of signature by the Director of the Air and Radiation Division. This Order will terminate two years from the effective date, provided that Bulldog has complied with all terms of the Order throughout its duration.

42. Except as otherwise specified in this Order, Bulldog reserves all of its rights, remedies, and defenses in any future proceeding.

3-23-15
Date


Larry Fleshood, Plant Manager
Bulldog Battery Corporation

3/27/15
Date


George T. Czerniak
Director
Air and Radiation Division
U.S. Environmental Protection Agency, Region 5

Attachment A



BULLDOG BATTERY CORPORATION

98 E. CANAL ST. P.O. BOX 766 WABASH, IN 46992-0766
PHONE: (800) 443-3492 FAX: (800) 448-7511

Title: Standard Operating Procedure for Recordkeeping, Operation, Inspection, Monitoring, Maintenance and Corrective Action for the Exhaust Fabric Filter Systems at
Bulldog Battery Corp, Wabash, IN
Short Title: SOP for IOM of Dust Collectors

Background: Bulldog Battery is a Lead Acid Battery manufacturer and an area source subject to NSPS subpart KK and NESHAP subpart P. This procedure details Bulldog's requirements for monitoring, recordkeeping, inspecting and maintaining fabric dust collectors that control emissions from the plant. There are no scrubbing systems at the plant.

Summary: This procedure covers:

1. The daily, weekly, monthly, quarterly and semiannual monitoring and inspection of fabric filter systems installed and operating to control exhaust emissions from lead handling operations.
2. The definition of an upset and the corrective actions to be taken when an upset is discovered.
3. Emission points located at 387 S. Wabash St (located on the north side of East Water Street). This procedure does not apply to 73 East Water St (the warehouse on the south side of E Water St) as there are no applicable emission points located at this facility.

Purpose: Records are to be kept that show operations are within limits and that prompt actions are taken to correct problems that cause a system to operate outside of its normal operating parameters. This monitoring and maintenance program provides the data gathering directions and forms for keeping these records. The records are to be complete enough to show:

- Actions taken if visible emissions occur, if the fabric filter pressure readings are outside the normal range or if other abnormal conditions are observed.
- Routine monitoring data for collector performance parameters (e.g. pressure drop, no visible emissions and other data as appropriate and described below.
- Maintenance performed on internal components, (cleaning system, gaskets, fans, etc.)
- Records of calibration verifications of pressure gauges and temperature switches.

Regulatory References:

This Plan includes the following to demonstrate proper fabric/HEPA filter operation according to the requirements of:

- a. Semiannual inspections and maintenance as required by NESHAP Subpart P, at 40 C.F.R. § 63.11423(b)(2)(i).
- b. Differential pressure drop monitoring as required by NESHAP Subpart P, at 40 C.F.R. § 63.11423(b)(2)(ii) or visible emissions observations as required by NESHAP Subpart P, at 40 C.F.R. § 63.11423(b)(2)(iii).
- c. Pressure drop operating ranges for each fabric/HEPA filter and the method used to establish each range.

- d. Inspection requirements for periodic (weekly, monthly, quarterly, semi-annual, and annual) inspections for each fabric/HEPA filter;
- e. Preventive maintenance requirements;
- f. The method chosen for compliance with 40 C.F.R. § 63.11423(b)(2) and frequencies of pressure drop monitoring and visual emission observations for each unit; and
- g. Recordkeeping requirements.

Document References:

1. Tort Installation and Operation Manual, 1991, #JOM-42726
2. Airflow Systems Inc. Owner's Manual, Model 202, Rev 12/98/#22-1920
3. Kinetic Air Systems IOM Manual 3/18/1988
4. Casting Vent System Operating & Maintenance Manual, rev 0, 9/19/2007
5. ACGIH Industrial Ventilation, A Manual of Recommended Practice for Operation and Maintenance, First Edition, 2007
6. Appendix A Part 1: Troubleshooting Guide Baghouse Filters
7. Appendix A Part 2: Troubleshooting Guide Cartridge Dust Collectors

Review: Following initial approval, this document and all of the referenced forms shall be reviewed annually by the Plant Manager and the Maintenance Supervisor and the MS shall do a Semi-annual review of each Corrective Action Investigation Log

Applicability: This SOP for IOM of Dust Collectors applies to the following ventilation and exhaust systems. NESHAP monitoring, maintenance and inspection requirements are applicable to these systems.

Table 1

Stack #	Description	Facility Name
S 1	Dust Collector with after filter for the grid casting and small parts casting operations	Grid Casting & Other Lead Emitting Operations
OM 1	Oxide Mill # 1 with cyclone, baghouse & HEPA after filters	Lead Oxide Manufacturing
OM 2	Oxide Mill # 2 with cyclone, baghouse & HEPA after filters	
DC 1A	Stacking & Burning, cartridge dust collector with HEPA after filters	3 Process Operation
DC 2A	Stacking & Burning, cartridge dust collector with HEPA after filters	
DC 1B	Pasting, cartridge dust collector with HEPA after filters	Pasting Facility
DC 2B	Pasting, cartridge dust collector with HEPA after filters	

This procedure does not include monitoring of combustion flues. The combustion flues are listed in Table 2:

Table 2

Indirect fired space heaters
Casting department indirect fired melt pots (3)
Oxide Mill indirect fired melt pots (2) and reactors (2)
Indirect fired combustion flue on the humidity curing and drying oven (PC)

This procedure does not include formation room exhaust fans (6 roof fans and 2 wall fans) or the rectifier room exhaust fan. The exhausts from these areas do not contain lead emission sources and do not have any control devices.

This procedure does include a daily visible emission observation on stack PC-1 from the plate curing oven (stack PC1). While this device does not have any emission control it is located in a lead processing area. Bulldog Battery has decided it is prudent to include daily visible emission observations of this stack.

This procedure does not include silo bin vents, the plate wrapping dust collectors (2) or the central housekeeping vacuum system as these air streams are all final filtered by fabric filter systems listed in Table 1 that are included in this recordkeeping, monitoring and corrective action plan.

Forms referenced in this procedure:

1. Daily Oxide Mill Vent Inspection, Operating and Maintenance Log Form # EPA-OM-LOG-1
2. Daily Dust Collector Vent Inspection, Operating and Maintenance Log Form # EPA-DC-LOG-2
3. Daily CAST VENT Inspection, Operating and Maintenance Log Form # EPA-CV-LOG-3
4. Daily PLATE CURE VENT Inspection, Operating and Maintenance Log Form # EPA-PC-LOG-4
5. Semi-Annual Dust Collector Inspection and Maintenance Log Form # EPA-DC-IOM-5
6. Corrective Action Investigation Log Form # EPA-DC-CAP-6

Policy: It is Bulldog Batteries policy to minimize emissions from its operations. As part of this policy:

Any time visible emissions are observed by any employee, from any stack or from any activity on the property, it is to be immediately reported to the Plant Manager, Area Supervisor or Maintenance Supervisor, so that the process at the source of the emissions and any and all associated exhaust systems can be shut down as soon as it safe to do so. The process and associated ventilation system is to remain off until the source of the problem is identified and corrected. When appropriate and safe, the load to a control system under upset may be reduced while waiting for it to become safe to shut down the system.

Daily Monitoring and Recordkeeping: The NESHAP standard requires that for systems with HEPA after filters the differential pressure be measured and recorded weekly or the stack be checked for visible emissions weekly. Systems without HEPA after filters must be checked daily and the pressure drop and visible emission result recorded.

Bulldog has elected to monitor differential pressure at OM1, OM2, DC 1A, DC 2A, DC 1B, and DC 2B for compliance with the NESHAP standard.

In addition to the NESHAP requirement, Bulldog Battery requires visible emissions readings for OM1, OM2, DC 1A, DC 2A, DC 1B, DC 2B, S1, and PC1 to be taken daily. OM and DC systems differential pressure readings are only required to be taken weekly by the NESHAP, but are to be recorded daily.

1. The Area Supervisor (AS) is responsible for checking the differential pressures on each of the systems in their area and to record the pressure drop.
2. In the Oxide Mill, the Oxide Mill Operator (OMO) is responsible for the daily monitoring and recording of these items.
3. Data source for the differential pressure range indicating proper operation was information from the replacement filter supplier and the operating experience with these systems at the plant based on review of years of daily pressure drop records.

Table 3

Stack #	Description	# of Readings	Differential Pressure Range indicating proper operation	Scheduled filter change	Form # & Frequency of Record
S 1	Combined pressure drop across prefilter and final filter	1	0.6 – 4.0"	Schedule filter change at 2.7" to 3"	EPA-CV-LOG-3 Daily
OM 1 *	Pressure drop across the Baghouse and the HEPA after Filter	2	BH: 1.4 – 4.4"	Schedule BH Bag change at 3.6"	EPA-OM-LOG-1
OM 2 *	Pressure drop across the Baghouse and the HEPA after Filter	2	HEPA: 1.3 – 4.4"	Schedule HEPA change at 4.2"	Weekly
DC 1A	Pressure drop across the cartridge filter and the HEPA after Filter	2	Cart: 0.6 – 6.0" HEPA: 0.75 – 4.4"	Schedule Cartridge change at 4.0"	EPA-DC-LOG-2
DC 2A	Pressure drop across the cartridge filter and the HEPA after Filter	2		Schedule HEPA change at 3"	Weekly
DC 1 B	Pressure drop across the cartridge filter and the HEPA after Filter	2			
DC 2B	Pressure drop across the cartridge filter and the HEPA after Filter	2			

* Note: In the oxide mill the differential pressure can vary widely as the DP varies with the ambient temperature, humidity, production rate, desired particle size. Any time the OMO observes a wide fluctuation of pressure readings, they are to notify the MS to determine if the system needs to be shut down for investigation.

- a. If the process is not being operated, record 'NR' for Not Running.
- b. If the process is being operated, then read the differential pressure gauges and record on system IOM Log.
- c. Visually inspect each system for signs of abnormal operation (spills, visible emissions, open or leaking doors, etc.).
- d. Listen to each system for any changes in the sound of the vent system that would indicate potential abnormal operations.
- e. For stack PC-1, the Plate Curing Oven Exhaust observe stack discharge for visible emissions once each day and record results on the Daily Visible Emission Log Form #: EPA-PC-LOG-4

4. **Actions:** The phrase: "notify the MS (Maintenance Supervisor) or PM (Plant Manager)" below means the MS or PM is to investigate the root cause and to determine if the process and vent system is to be shutdown to prevent excess emissions. Record on the daily log the notification of the MS or PM. The MS or PM is responsible to record the result of their investigation and the corrective action taken.

- a. In the event of any signs or sounds of abnormal operation notify the Maintenance Supervisor (MS) or the Plant Manager (PM) to investigate.
- b. If the pressure gauge has malfunctioned, or if its accuracy is suspect for any reason, then:
 - i. Take a visible emission reading from the discharge
 - ii. Advise the PM and / or MS of the collector, the differential pressure reading and the visible emission level for determination if the process needs to be shut down and if a corrective action investigation is to be initiated.
 - iii. Record each of these items on the relevant log

5. Casting System S-1

- i. Notify MS to schedule a filter change at a differential pressure of 2.7 to 3" W.C.
- ii. Notify MS if CO₂ fire suppression gas tank pressure falls below 120 psi
- iii. Notify MS & PM if fire suppression system activates. Automatic activation of the fire suppression system automatically shuts down this dust collection system. Production of cast parts is to cease immediately. Operators are to reduce the melt pots to low fire. Restart of this system is to be overseen by the Maintenance person on duty according to the procedures contained and described in the Fire Suppression System manual.
- b. **Oxide Systems OM 1 and OM 2:**
 - i. OM 1: notify the MS or the PM to investigate if the BH pressure drop exceeds 1.7"
 - ii. OM 2: notify the Maintenance Supervisor or the Plant Manager to investigate if the BH pressure drop exceeds 2.7"
 - iii. OM 1 and OM 2: shut down reactor and then notify PM and / or MS if the pressure drop across the bags or across the HEPA goes below 0.8"
 - iv. OM 1 and OM 2: notify the MS or the Plant Manager to investigate when any of the following occur

1. There is an increase of 0.5" or more across the HEPA after filters since the last hourly reading.
 2. If the pressure drop across the HEPA after filter is 4.0" or more, notify MS to schedule a filter change.
 3. Either the baghouse cleaning system fails to activate or it fails to reduce the pressure drop across the bag filters.
 4. Compressed air pressure to either baghouse falls below 90 psi or rises above 100 psi.
- c. **Torit Systems DC-1A, 1B, 2A and 2B:**
- i. If the differential pressure equals or exceeds 2.7" across the Cartridge filters manually start a cleaning cycle. (Note: This is typically once every 2 weeks).
 - ii. If the cleaning system fails to start notify MS or PM to investigate.
 - iii. Listen to the cleaning cycle to verify the valves are opening. If the cleaning cycle sounds different notify MS.
 - iv. If the cleaning system fails to reduce the pressure drop by at least 0.25" after 15 minutes, notify the MS.
 - v. If the compressed air pressure to any of the cartridge dust collectors falls below 90 psi or rises above 100 psi notify the MS or PM.
- d. **Filter Replacement:** All filter replacements shall be recorded on the Operating and Maintenance Log with the date, numbers and types of filters replaced, reason for replacement and differential pressure after restart.

Startup of new filter bags or cartridges: When cleanable filters are replaced, they are to be seasoned by using the constant volume start up procedure as described in Section 6.2.20 of Chapter 6 in the Industrial Ventilation Manual for Operation and Maintenance.

Inspection and Maintenance:

The NESHAP standard requires semiannual inspections and maintenance. In addition to the NESHAP requirement, inspections and maintenance on a daily, weekly, monthly, and quarterly cycle are required by Bulldog Battery. For reference these items are listed under Daily, Weekly, Monthly and Quarterly checks on the individual IOM Logs. The checklist for the Semi-annual checks are listed on the Semi-Annual Dust Collector Inspection and Maintenance Log: EPA-DC-IOM-5. The designated Maintenance Associate shall inspect each of the items on these checklists that are appropriate to the system listed in Table 1.

This completed form shall be signed by the Associate overseeing the inspection and shall be submitted to the Plant Manager for review, sign off and filing. The PM is responsible for following up that open items are completed.

Corrective Action Plan

The Corrective Action Plan must include the following:

- a. Describe indicators of poor operation (e.g. high pressure drop, low pressure drop, visible emissions, exhaust fan issues), possible causes of these problems, and corrective actions to be taken to correct these problems.
- b. The actions taken to minimize emissions.

- i. Reduction of load or shut down of the process unit when the fabric/HEPA filter is not operating properly and
 - ii. Reduction in time between the indication of poor operation and when the corrective action occurs
- c. The actions to be taken to prevent reoccurring incidences, such as:
 - i. Improvement to fabric/HEPA filter preventative maintenance, if needed,
 - ii. Increased frequency of inspections if needed,
 - iii. and addition of new elements to inspections if appropriate.
- d. The Corrective Action Plan is to be initially developed on the basis of
 - i. manufacturer's recommendations and
 - ii. the facility's past experience with pressure drop monitoring, visible emissions observations, and operating the fabric/HEPA filters.

Corrective Action Plan: This Corrective Action Plan is to be implemented anytime one of the following upset events occurs:

- 1. Visible emissions are observed from any stack, any door or window or any outside activity.
- 2. The differential pressure across the final filter in any system listed in Table 1 falls below the minimum value listed in Table 3.
- 3. Any differential pressure reading in any system listed in Table 1 exceeds the maximum value listed in Table 3.
- 4. There is a failure of any of the following components of a fabric filter system:
 - a. Filter seal
 - b. Dust is discovered in the clean air plenum
 - c. A dust spill occurs, whether indoors or out
 - d. There is drive or other component failure on a fan.
 - e. Compressed air pressure falls below 90 psi to a pulse jet system.
- 5. There is a dust collector fire. Record whether or not the fire suppression system activated and whether or not the fire was extinguished immediately.
- 6. The fire suppression system in casting is activated automatically.

Upon identifying any of the upsets listed above, reduce load or shut down the process unit when the fabric/HEPA filter is not operating properly and immediately begin the corrective action process of identifying the cause of the incident and implementing corrective action.

For assistance in the identification of potential causes of upsets and corrective actions for a baghouse dust collector refer to Appendix A Part 1: Operation, Troubleshooting & Maintenance of Baghouse Filters.

For assistance in the identification of potential causes of upsets and corrective actions for cartridge dust collectors refer to Appendix A Part 2: Troubleshooting Guide for Cartridge Dust Collectors.

A Corrective Action Investigation Log, Form # EPA-DC-CAP-6 shall be completed for each occurrence of an incident on the above list.

Semi-annually the MS shall review each Corrective Action Investigation Log and based on the information contained in the logs determine if any modifications to the O&M Plan or the Corrective Action Plan will accomplish any of the following:

- a) Decrease the amount of time between identification of an upset and implementing corrective action(s) if the response time exceeded three hours.
- b) Help prevent reoccurrence of the incident if it will be helped by:
 - i. modifications to fabric filter/HEPA filter preventative maintenance,
 - ii. increased frequency of inspections, or
 - iii. adding new elements to inspections.

Approvals:

_____ Name	_____ Signature	_____ Title	_____ Date
_____ Name	_____ Signature	_____ Title	_____ Date

SECTION 2

Appendix A Part 1
TSG Baghouse Filters

OPERATION TROUBLE SHOOTING & MAINTENANCE

START-UP INSTRUCTIONS

Before Start-Up

Fill collector air header with compressed air at 80-100 PSIG. Clean and oil-free air should be dry to -40°F.

Apply Power to timer.

Verify that all solenoids and their respective diaphragm valves operate sequentially.

Apply power to all material discharge equipment and *verify proper rotation*. (For more information, refer to SECTION 4 in this manual.)

Close the induced draft fan's damper and run the fan for a few minutes.

Verify proper rotation, RPM and vibration free operation.

When filter bags are new, run the fan with damper partially opened. This will prevent damaging the filter bags and overloading the fan during the initial start-up. If fan has no damper, install a partial obstruction in the duct or at the pick-up hood.

When positive displacement blower is used, an air damper is not required or recommended.

The system is now ready to put into service.

Initial Start-Up

The following procedure must be performed when starting the collector with fresh filter bags.

Set collector timer "OFF-TIME" to approximately 10 seconds.

Set the "ON-TIME" between .1 and .15 seconds. (For systems using a Dwyer "Photohelic" switch for timer operation, refer to SECTION 3 for further instructions.)

Set the fan for half air volume (about 30% damper open).

When ready to filter dust, start the fan and the dust handling equipment.

Maintain the half air volume flow rate until the differential pressure across the bags reaches 3" WG, as indicated on the differential pressure gauge.

Filter bags perform most efficiently when there is a layer of dust deposited on the fabric. Running the collector with the timer "OFF", expedites this condition.

Slowly move fan damper to fully open position and start the cleaning cycle (switch timer "ON").

Make sure that all dust handling equipment have been switched "ON" and are operating properly.

Shut-Down Procedure

Switch power "OFF" to the fan or blower.

Allow timer to cycle 2 to 3 more times before shutting it "OFF". This is a good operation measure. It allows the filter bags to clean further.

Cleaning the filter bags with fan power "OFF", is especially important with hygroscopic or sticky dusts that tend to hang on the filter bags.

Wait an additional 10 to 15 minutes before switching power "OFF" to the material handling equipment. For automatic operation, or when the dust collector is designed with remote control, delay switches in the circuit will perform the above functions.

FINE TUNING THE SYSTEM

For efficient operation, maintain 4" WG pressure drop across the bags. Certain "difficult" dusts may require a 6" WG pressure drop.

Assuming constant dust load, temperature, moisture, etc., *the differential pressure will drop when:*

- The system's air volume is decreased

The differential pressure may or may not drop when:

- The timer "OFF-TIME" is decreased
- The air header pressure is increased
- The timer "ON-TIME" is increased

Important:

Never exceed 100 PSIG pressure at the air header. Also note,

increasing the "ON-TIME" has minimum effects on most applications. However, it increases compressed air usage dramatically.

For the differential pressure drop to increase, the opposite steps apply.

ECONOMIC CONSIDERATIONS

Low Pressure Drop can be accomplished at the expense of bag life and excessive use of compressed air. Dust emission may also occur due to bag over cleaning.

High Pressure Drop will force the fan works harder, it wastes motor horse power. Excessive pressure drop also reduces the ventilation capacity of the system by reducing the air volume through the collector.

For optimum operation, the pressure drop should be adjusted between 4"-6" WG.

TROUBLE SHOOTING

Very High Differential Pressure

Check compressed air pressure. Pressure gauge near the collector should read 80-100 PSIG.

Check filter bag cleaning system for proper operation. Make sure that all diaphragm valves are functioning.

If none of the valves are "firing", check timer power supply and timer operation.

If some of the valves are not "firing", check for solenoid loose wiring or solenoid valve damage.

Appendix A Part 1 TSG
Baghouse Filters

Assuming that the valves are operating, decrease timer "OFF-TIME" and evaluate improvement, if any.

Operate the cleaning system with the fan turned "OFF" for 20 minutes. If the pressure drop is about the same after starting the fan again, the bags may be "blinded", which will require change.

Check for moisture or oil in the air line. Usually the upper section of the filter bags is damp and "caked". (For details, refer to page 2 in SECTION 1, under "Compressed Air Supply".)

Check dew point of dust laden air. Severe moisture conditions may require insulating and heat treating the collector.

Laundering or dry cleaning the filter bags may be practical when the dust is water soluble. For most applications this is not a practical or economical solution.

Check that bags aren't "skin" tight on cages. Bags must be free for proper flexing. Laundered bags tend to shrink and become stiff.

Check main air flow volume with "Pitot Tube" or other air measuring device to insure that the collector is operating at the designed air volume.

Check dust particle size, dust laden air temperature, and moisture against the designed conditions.

Check hopper and make sure it is empty. Do not use hopper as a storage bin, unless it was designed for that purpose. If material sticks or bridges in the hopper, install properly sized vibrators or aeration equipment in order to keep hopper empty at all times.

Check material handling equipment for proper dust removal.

Excessive build-up of material in the hopper contributes to high

differential pressure drop and premature filter bag wear.

Very Low Differential Pressure

Inspect differential pressure gauge and gauge lines.

Measure air volume (ACFM) going through the dust collector.

Reduce cleaning frequency by increasing the timer's "OFF-TIME" setting.

Dust Emission

Check for faulty filter bag installation or loose filter bags.

Check filter bags for holes or wear. Replace worn filter bags.

Reduce cleaning frequency by increasing the timer's "OFF-TIME" setting.

Allow collector to filter dust for 48 to 96 hours, after the installation of new bags, before performing emission tests.

Poor Bag Life

Measure actual air volume (ACFM) and compare against design specifications. Excessive dust laden air, along with abrasive dust will shorten bag life.

Note bags wearing prematurely in certain areas of collector. A revised inlet baffle may be required. Give us a call for assistance.

Check for burrs or excessive corrosion on cages. "Rough" surfaces will cause premature bag wear. Plastic coated or stainless cages should solve this problem.

Check operating temperature. It should be within the limits of the filter bag material.

Check for moisture and dew point problems in the collector. High moisture will cause certain filter bags to shrink and shorten their expected life.

Check pH of dust and make sure that the proper filter bags are used for this application.

If experiencing other difficulties, not covered in this manual, contact us for assistance.

PERIODIC MAINTENANCE SCHEDULE

With proper maintenance, this dust collector should provide many years of trouble free operation.

Daily Maintenance Schedule

Make visual inspection of the dust collector outlet. If the gas is dusty, inspect the filter bags for holes or loose fit.

Note differential pressure reading. It should read between 4" to 6" WG. Never allow pressure drop to exceed 8" WG. Refer to trouble shooting for corrective measures.

Check dust handling system for proper operation. By tapping on the lower section of the hopper you can be sure that it is empty. Consider installing a material lever indicator in the hopper & periodically monitor all material handling equipment.

Weekly Maintenance Schedule

Check for air leaks at the collector air header to insure that all diaphragm valves are operating.

Drain water from the air header and from the air dryer.

Some dust collectors are outfitted with an automatic air header draining device. Make sure it operates properly.

Periodic Inspection

Inspect bearings and chain sprockets of moving equipment and lubricate, as required.

Inspect belts and sprockets for proper tensioning.

Every effort must be made to keep moisture out of the dust collector.

If moisture is present, check quality of compressed air and make the necessary corrections.

Check doors and ports for possible leakage. Check and repair damaged collector walls and intake ducts to prohibit ambient moisture from entering the collector.

7.0 TROUBLESHOOTING GUIDE

Appendix A Part 2
TSG Cartridge Dust
Collectors

TROUBLE	POSSIBLE CAUSE	REMEDY
A. Blower fan and motor does not start.	1. Wiring.	
	a. Proper wire size not used for motor.	1a. Rewire per local and national codes for proper wire size.
	b. Not wired correctly.	1b. Check and correct internal motor wiring for proper connections for your voltage. (Reference Motor Manufacturer Wiring Diagram on motor.)
	c. Unit not wired for available voltage.	1c. Correct wiring for proper input voltage.
	d. Input circuit down.	1d. Check input to motor circuits for voltage on all leads.
B. Blower fan and motor starts, but does not keep running.	e. Electrical supply circuit down.	1e. Check the electrical supply circuit for proper output voltage or fuse, circuit breaker fault. Replace if necessary.
	1. Starter kicks out.	
	a. Incorrect starter heater elements are installed.	1a. Check for proper motor starter heater elements. Replace with proper value heater elements if needed.
	b. Collector access covers are off or not closed tight.	1b. Tighten access cover(s) by hand securely. (See Figure 27 and Filter Installation Section 6.2 located in this manual.)
	c. Hopper discharge open to atmosphere.	1c. Install slide gate, drum cover arrangement, or other accessories to hopper discharge. See Optional Attachment and Operating Adjustments Section.
	d. Blower fan damper control not adjusted properly.	1d. Check airflow in ducting for proper requirements. Adjust the damper control until the proper airflow is achieved and the blower fan motor amperage draw is within manufacturer motor ratings.

7.0 TROUBLESHOOTING GUIDE

Appendix A Part 2
TSG Cartridge
Dust Collectors

TROUBLE	POSSIBLE CAUSE	REMEDY
B. Blower fan and motor starts, but does not keep running. (cont.)	<ol style="list-style-type: none"> 1. Starter kicks out. (cont.) <ol style="list-style-type: none"> e. Electrical circuit overload. 	<ol style="list-style-type: none"> 1e. Check that the supply circuit has sufficient power to run all equipment.
C. Dust discharge out of clean air outlet.	<ol style="list-style-type: none"> 1. Filter elements installed improperly. 2. Filter element damage, dents in the end caps, gasket damage or holes in pleated media. 3. Access cover(s) are loose. 	<ol style="list-style-type: none"> 1. Check that gaskets on the filter element(s) are facing into the cabinet first. (See Figure 27 and Filter Element Installation Section 6.2 located in this manual.) 2. Replace the filter elements. Use only Torit Ultra-Web filter elements. (See Figure 27 and Reference Replacement Parts List and install as in the Filter Element Installation Section 6.2 located in this manual.) 3. Tighten access cover knob(s) securely. (See Figure 27 and Filter Element Installation Section 6.2 located in this manual.)
D. Insufficient air flow.	<ol style="list-style-type: none"> 1. Fan rotation backwards. 2. Collector openings not tight or closed. 	<ol style="list-style-type: none"> 1. Check fan rotation. The fan rotation should be clockwise, looking down at the top of the blower fan motor. (See Figure 16 and Start-Up Section 4.0 located in this manual.) 2. Check access covers, that they are in place and tightened securely. (See Figure 27 and Filter Element Installation Section 6.2 located in this manual.) Also check hopper discharge area that openings are closed off and that the optional hopper attachments are installed. (See Figures 7, 8 and Start-Up Section 4.0.)

7.0 TROUBLESHOOTING GUIDE

Appendix A Part 2
TSG Cartridge
Dust Collectors

TROUBLE	POSSIBLE CAUSE	REMEDY
D. Insufficient air flow. (cont.)	3. Fan exhaust area is restricted.	3. Check fan exhaust area for blockage. Remove material or debris that is blocking the fan exhaust area or adjust damper flow control on fan exhaust area.
	4. Filter elements plugged with particulate.	
	a. Filter elements need to be replaced.	4a. Remove and replace using only Torit Ultra-Web filter elements. (See Figure 27 Filter Element Replacement and Replacement Parts List.)
	b. Lack of compressed air.	4b. Check compressed air supply for 90 psig minimum. See Figure 1. Increase pressure as described in Operating Adjustments Section 5.0 in this manual.
	c. Pulse cleaning not energized.	4c. Check supply voltage to the timer board with a volt ohm meter. Check the fuse on the timer board. If the fuse is blown, replace it with one of equal value. See Wiring Diagram in Figure 25 and the Solid State Timer Control Specification Section 2.7.2.
	d. Dust storage area is too full or plugged.	4d. Clean out dust storage area as described in the Dust Removal Section 6.3 in this manual and reference Figure 27 and the Filter Element Sections 6.1 and 6.2.

7.0 TROUBLESHOOTING GUIDE

Appendix A Part 2
TSG Cartridge
Dust Collectors

TROUBLE	POSSIBLE CAUSE	REMEDY
D. Insufficient air flow. (cont.)	5. Pulse valves are not functioning.	
	a. Pulse valves are leaking compressed air.	5a. Lock out all electrical power to the Downflo II and bleed off the compressed air supply. Check for debris, valve wear or diaphragm failure by removing the diaphragm cover on the pulse valves. Also check for solenoid leakage and/or damage. If pulse valves or solenoid valves and solenoid tubing are damaged replace part(s). (Refer to Replacement Parts List.)
	b. Pulse control solid state timer board has failed.	5b. Check supply voltage to the timer board with a volt ohm meter. Check the fuse on the timer board. If the fuse is blown, replace it with one of equal value. If the fuse and input power to the control board is okay, but there is not any output voltage to the solenoid pulse control valves, replace the pulse control timer board. (Reference Replacement Parts List and Solid State Control Timer Section 2.7.2 and Figure 25.)
	c. Pulse control timer board is out of adjustment.	5c. Refer to the Solid State Control Timer Section 2.7.2 located in this manual and Figure 25.

Attachment B

If Visible Emissions are observed at anytime immediately notify the Maintenance Supervisor (MS) or Plant Manager (PM).
Record differential pressure readings and or Visible Emission reading or enter 'NR' for "Not Running"

EPA-PC-LOG-4

Stack		Stack #:		PC-1 Plate Curing Oven		Month: Year:	
Day	Visible Emissions?	Checked By	Notified MS?	Maintenance Performed	Day/Week/Monthly/Quarterly check?	Daily Checks	
1						Listen for sounds and look for signs of abnormal operation.	
2							
3							
4							
5						Air, dust or fluid leaks or spills All guards in place Electrical Cabinets Closed Check for access door leaks Listen for belt squeal on startup	
6							
7							
8							
9							
10							
11						Weekly Checks Fan drive belt tension	
12							
13							
14						Check bearings for abnormally hot operation by feel (<140 F)	
15							
16							
17						Monthly Checks	
18							
19							
20							
21							
22							
23						Inspect all drives for tension, wear and replace as necessary Inspect airlines, hoses & clamps Inspect ducts for damage	
24							
25							
26							
27						Quarterly Checks	
28							
29						Lubricate fan bearings	
30							
31						Semi-Annual Checks Not Applicable	

If Visible Emissions are observed at anytime immediately notify the Maintenance Supervisor (MS) or Plant Manager (PM).

Record differential pressure readings and or Visible Emission reading or enter 'NR' for "Not Running"

If pressure gauge has malfunctioned, record visible emission result and notify the MS or PM.

EPA-OM-LOG-1

Stack #:				Month:		Daily Checks
				Year:		
Day	Primary Filter	Secondary Filter	Stack	Visible Emissions?	Checked By	Condition Observed & Maintenance Performed
1	Inch W.C.*	Inch W.C.**				Day/Week/Monthly/Quarterly check?
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

Daily Checks

Listen for sounds and look for signs of abnormal operation.

Compressed Air Pressure 90 - 100 psi

Differential Pressure in normal range

Air, dust or fluid leaks or spills

All guards in place

Electrical Cabinets Closed

Check for access door leaks

Listen for belt squeal on startup

Weekly Checks

Fan drive belt tension

Check dust level & remove dust if needed

Check bearings for abnormally hot operation by feel (<140 F)

Monthly Checks

Check pressure gauge line integrity and liquid level in filled manometers

Check Inert Gas Fire Suppression System

Inspect all drives for tension, wear and replace as necessary

Inspect airlines, hoses & clamps

Inspect ducts for damage

Quarterly Checks

Lubricate fan and rotary valves bearings

Semi-Annual Checks

See Form #: EPA-DC-IOM-3

NR = Not Running

Inch W.C.* - If outside of 1.4 - 4.4", contact MS/PM and complete corrective action form.

Inch W.C.** - If outside of 1.3 - 4.4", contact MS/PM and complete corrective action form

If Visible Emissions are observed at anytime immediately notify the Maintenance Supervisor (MS) or Plant Manager (PM).

Record differential pressure readings and or Visible Emission reading or enter 'NR' for "Not Running"

If pressure gauge has malfunctioned, record visible emission result and notify the MS or PM.

EPA-DC-LOG-2

Stack #:		Month: Year:		NR = Not Running				
Day	Primary Filter Inch W.C.*	Secondary Filter Inch W.C.**	Stack Visible Emissions?	Checked By	Notified MS?	Condition Observed & Maintenance Performed	Day/Week/Monthly/Quarterly check?	Daily Checks
1								Listen for sounds and look for signs of abnormal operation. Compressed Air Pressure 90 - 100 psi Differential Pressure in normal range Air, dust or fluid leaks or spills All guards in place Electrical Cabinets Closed Check for access door leaks Listen for belt squeal on startup
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								Weekly Checks Fan drive belt tension Check dust level & remove dust if needed Check bearings for abnormally hot operation by feel (<140 F)
12								
13								
14								
15								
16								Monthly Checks Check pressure gauge line integrity and liquid level in filled manometers Check Inert Gas Fire Suppression System Inspect all drives for tension, wear and replace as necessary Inspect airlines, hoses & clamps Inspect ducts for damage
17								
18								
19								
20								
21								Quarterly Checks Lubricate fan and rotary valves bearings Semi-Annual Checks See Form #: EPA-DC-IOM-3
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								

Inch W.C.* - If outside of 0.6 - 6.0", contact MS and complete corrective action form.

Inch W.C.** - If outside of 0.75 - 4.4", contact MS and complete corrective action form

Semi-Annual Dust Collector Inspection and Maintenance Log

Collector #: _____

Inspected by: _____

Inspection Date: _____

Next Inspection Date: _____

Visual Inspection, Collector Running		Results		EPA-DC-IOM-5
				Comments, remarks
Check for visible emissions or other evidence of system bypass leaks (dust on roof, ground or duct walls)				
Check all moving parts for vibration				
Verify proper operation of pulse system and all solenoid and diaphragm valves				
Listen for bearing or belt noise				
Check bearings for excess heat by feel (<140F)				
Verify Pressure Gauge Calibration		Zero	Span	
Gauge 1	Type:			
Gauge 2	Type:			
Gauge 3	Type:			
Verify any alarm set points activate				
Compressed Air Pressure & Noise from a Leak				
Dust Spills and Dust Containment				
Exhaust stack, no visible dust inside and no-loss stack or rain deflection device is in place				
Inspect duct and Flexible connections for damage, tears or leaks				
Access doors are shut & sealed (no audible leaks)				
Structural integrity of all dust collector, fan and duct components				
Inspect system for corrosion				
Visual Inspection, Collector Off & Locked Out				
Dust containers and hoppers are empty & clean				
Inspect all door, hatch and cover plate gaskets, replace				
Inspect all door latches for proper operation. For bolt on				
Inspect Filter Seals from clean side				
Inspect clean side of final filters				
Inspect blowpipes for correct installation				
Inspect ducts for dust buildup or blockage, clean as needed				
Check fluid level in all liquid filled manometers				
Clean and inspect differential pressure gauge				
Check for plugs in the pressure sensing lines				
Rotary Valves				
Lubricate bearings, change gear oil				
Inspect drives for tension and wear, replace as needed				
Notes:				

Semi-Annual Dust Collector Inspection and Maintenance Log

Collector #:

Inspection Date:

Fans & Motors

Check fan rotation, freedom and proper rotation			
Inspect fan housing and back plate for material build up,			
Inspect pulleys, sheaves and belts for tension, wear and alignment, replace or adjust as necessary			
Verify fan & motor bearing lubrication is up to date			
Inspect & clean exterior of motors			
Verify motor mounts are secure			
Inspect vibration isolators			
Perform VFD drive checks per mfg's recommendations			
Check vibration levels on fans, motors & shafts			
Inspect all gaskets, rubber & springs			
Inspect belts for surface wear, cracking or a shiny,			
Inspect sheaves for nicks, burrs, wear or shiny grooved			
Ensure belt guard is clean, tight & secure			
Inspect shafts for scoring or brown areas by bearings			
Shaft guard is clean, aligned & secure.			

Louvers & Dampers

Check all dampers and louvers for operability, wear, corrosion and positioning			
Linkage connections are secure and operate freely			
Lubricate moving louvers and damper parts			

Fire Suppression System in Casting

Test Fire suppression system according to procedure in the Cast Vent Operating Manual			
Check calibration of temperature sensors			

Other

Spare parts inventory is adequate and up to date			
--	--	--	--

Date Completed:

Follow up Work Required			
Parts to order			
Supervisor Approval	Name	Signature	Date

Notes:

Corrective Action Investigation Log

Collector #: _____ EPA-DC-CAP-6
 Inspected by: _____

Date & Time of Upset	Date & Time of Shutdown or Load Reduction	
Description of event, upset or malfunction:		
Action(s) taken to Minimize emissions:	Reduce Load?	Shutdown?
Facts of the matter:		
Cause:		
Corrective Action(s) taken now:	Date and Time of Corrective Action:	
Corrective Action(s) to reduce recurrence:		
Diagram and notes:		
Follow up Work Required		
Did implementation of the corrective action take more than 3 hours?		
Can preventative maintenance or inspection frequency be modified to reduce recurrence?		
Parts to order		
Supervisor Approval	Name	Signature
		Date Item Closed:

CERTIFICATE OF MAILING

I, Loretta Shaffer, certify that I sent the Administrative Consent Order, EPA-5-15-113(a)-IN-03, by certified mail, return receipt requested, to:

Larry Fleshood
Plant Manager
Bulldog Battery Corporation
387 South Wabash Street
Wabash, Indiana 46992

I also certify that I sent a copy of the Administrative Consent Order, EPA-5-15-113(a)-IN-03, by first-class mail to:

Phil Perry
Compliance and Enforcement Office of Air Quality
Indiana Department of Environmental Management
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46206-6015
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46206-6015

On the 30th day of March 2015.

Kathy Shaffer
Loretta Shaffer, Program Technician
AECAB, PAS

CERTIFIED MAIL RECEIPT
NUMBER:

7014 2870 0001 9580 5272